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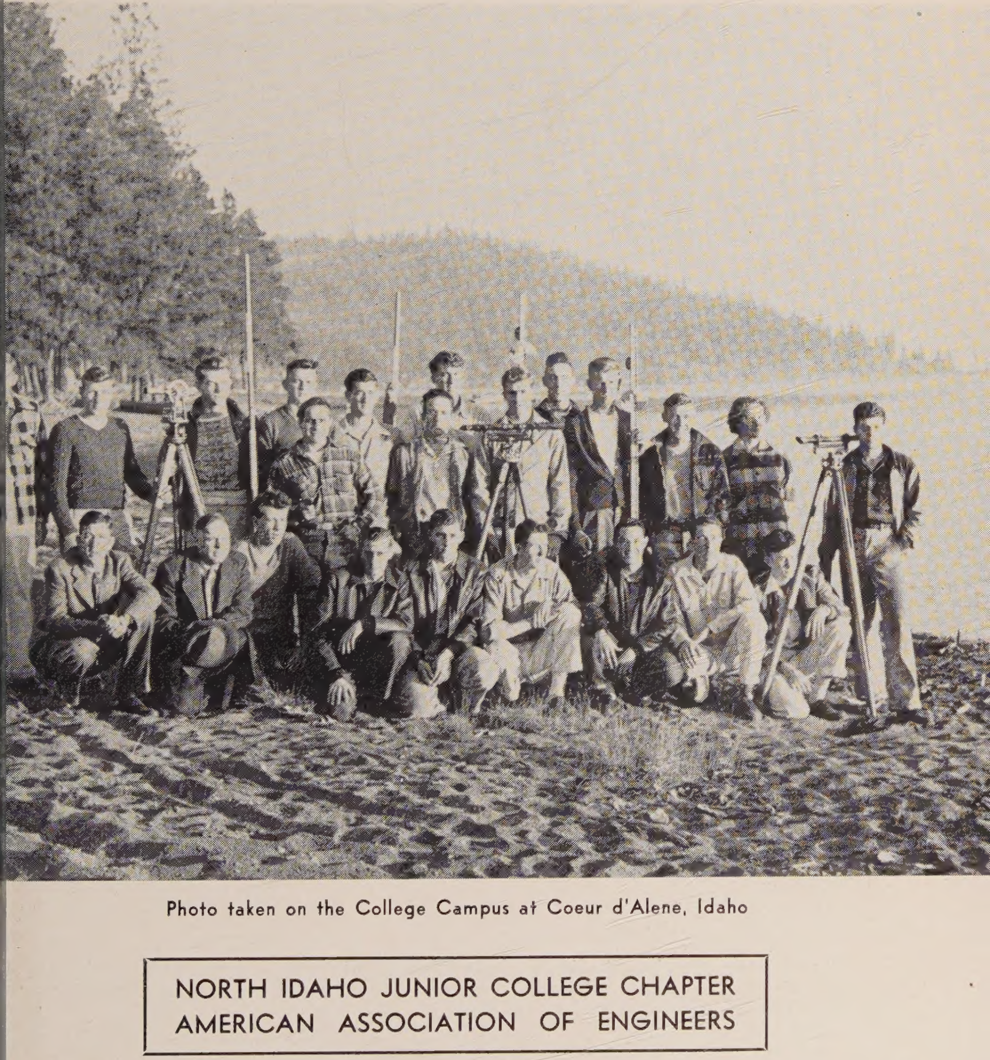

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AMERICAN ASSOCIATION OF ENGINEERS

l. 33 No. 4

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"The Voice of the Engineer"

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Up The Years—AN ENGINEER

For years man's striving has been chronicled "Down the Years." Why not *Up the Years?* Are we not climbing?

By N. E. WOLFARD, Member, A.A.E.

As man has fathomed nature's secrets, just so fast has he accelerated in wisdom and shall we say civilization? The question mark is placed because of the occasional erratic perversity of genius exemplified in Genghis Khan, Nero, Hitler, and—be there a living exponent? "Just you wait and see"; watch the atom!

We have defined "Professional Engineer" as he is defined in the legislative acts of the several States providing for the licensing of engineering practitioners. We are meditating and phrasing on the engineer,—his inception or birth, so to speak; his mental attitude as he strives and seeks out the stepping stones in and to knowledge ever expanding, intriguing, inspiring—on occasion baffling, but yet beckoning him on and on as the unknowns become known. The problems of yesterday are resolved intc spring-boards for today from which to dive deeper into nature's pool of mystery, the bottom of which may never be touched.

Birth of the Engineer: "What are you going to be when you grow up?" What boy has not been asked this question? When does a boy really begin to consider the course of his life's endeavor? And, companion to the latter question, why does he decide to be that which he decides to be?

We have been querying in the masculine, but many girls now are taking the prizes and awards in technical and scientific competitions. The engineering profession will welcome "with open arms" the girl who can run the gauntlet of mathematics, physics and chemistry.

It is not our desire to speculate as to why and when engineers and engineering students of today chose this or that particular field of endeavor. It is our aim to direct the attention of high school graduates to qualifications for, attitudes toward, and opportunities in engineering endeavor, and consequent satisfaction of accomplishment.

Astrologically paraphrasing, the engineer should be born under the star of high school graduation.

Basic Qualifications: If you do not relish sustained effort, exacting procedures, challenging problems, self-discipline, don't "Take engineering".

If you and mathematics are compatible,—if you were intrigued by the fulcrum, the inclined plane, the windlass and the pulley; by lifting the needle from the water surface, combing your hair then enticing bits of paper with the comb, Archimedes Principle, Boyles Law; if 32.2 ft/sec^2 accelerated your mental striving and acumen, and your kinetic energy was spurred by $\frac{1}{2}mv^2$; if your laboratory periods were a delight rather than a drudge, most probably you will be successful and happy in the more elaborate laboratories of manufacturing control and research, or in one of the many fields of industrial expansion, and commercial development as an *ENGINEER*.

The Formative Years: Having glimpsed the gleam of mystery unraveling over the Bunsen Burner, under the blast of the blow-pipe, from the beaker, decanter, flask and test tube or out of the Leyden Jar, you are determined to pursue, vigorously and relentlessly, why things are as they are and what will happen if nature's balances be upset or re-arranged or compounded or split.

You have decided that it will be fascinating, amusing, and may be lucrative to delve into physical phenomena. You ponder, perhaps, which way to launch out. What course to pursue? What shall be the challenging goal?

It is not necessary that the high school graduate decide immediately the course of his major endeavor. The curriculum for freshmen and sophomores is practically uniform for all branches of *Engineering* in colleges and universities throughout the nation.

Indeed there is, in the leading universities, tendency toward a 3-year general pre-engineering curriculum in preparation for a like period of specialized training in a chosen branch of the profession.

Whatever the period be which the student will spend in college, these are the formative years. Attitudes and habits of both mind and body acquired and cultivated during these years will determine, in major degree, his proficiency, accomplishment and happiness up the years as an *Engineer*.

During the early years of his college period, the student will have opportunity to discuss with councilors and faculty advisors "the choosing of a career". Also there will be lectures by professional engineers and industrial representatives which will assist the student in deciding which branch of engineering he will choose as his life endeavor.

Having chosen the particular branch of engineering in which he feels he will be most proficient and happy and thus fulfill his obligation to humanity, he will ally himself most earnestly with all the curricular and extra curricular activities of his chosen profession.

"No man liveth unto himself alone." We would add no company nor corporation striveth for itself alone, and indeed, no longer is a nation sufficient within itself.

Early must the individual realize the value and necessity of cooperation if he would be successful and happy in his work. Cooperation will not be confined only to the professional and business phases of his endeavor. Social, religious and political activities and problems will claim earnest thought, study and active participation by him who would be successful.

In this connection, I recall a statement by Prof. M. E. Bogarte, Professor of Mathematics at Valparaiso University, who was addressing a Y.M.C.A. meeting, away back in 1906. He said, "—I'd rather my boys should be mixers among men than to have the best college education I could give them.—"; in the parlance of a certain modern radio announcer —"think it over".

Commencement: Might we define commencement as the point at which direction changes direction of direction.

Up to the time you are handed your diploma, your life in all its ramifications will have been, to certain degree, under direction and guidance of superiors. Now it is up to you to guide your steps and direct your efforts.

Of course you may yet and probably will seek council from men of experience. Indeed this should be your course up through the years. Yet the responsibility of decision and direction of your efforts henceforth rests primarily and inescapably with you. Your success and advancement as an *Engineer* will be directly proportional to your ability to assume and dispense responsibility. In other words, shortly you will be giving directions as well as receiving them.

It should be noted that I did not say "You will be giving *orders* as well as receiving them". "Ordering" is not good civilian form for securing hearty cooperation and building good will, both prime essentials of high efficiency in operations, be they professional, industrial, commercial, or civil.

The First Job: Maybe you have been "interviewed" during your senior year by a representative of a commercial, industrial, or professional firm and "signed up" for your first job.

Maybe you were not counted among the "lucky upper ¼". Do not be discouraged. You "have met the requirements of the faculty of the college of Engineering and have been recommended for the degree of B.S. in— Engineering". Take stock of your equipment, your professional acquaintances. You probably have attended already one or more meetings of your State Society of Professional Engineers; maybe have made application for membership therein as "Engineer in Training". If you have not done this, *do it*. Follow up any "leads" you may get.

Of course you have become familiar with the requirements of registration for professional engineers through your student engineering society and "orientation" discussions by members of the faculty of your Alma Mater.

Do not refuse available subordinate jobs in your chosen profession. Experience is what you need for the next 4 years. Of course, you will start as high up the professional ladder as prudently possible, and climb as fast as consistently possible.

Get busy at once; keep busy in line of your chosen profession, if possible. Otherwise, take employment in fields most closely allied to your professional field, ever alert to get into your chosen line.

Read and study technical periodicals and new books relating to the field of your professional endeavor. Fraternize with brothers in the profession via Society meetings and otherwise cultivate habits of sustained effort, constructive thought, alert observation, keen and accurate analysis.

Registration as a Professional Engineer is your "pass-key" to the

Treasury of professional conquest. Your ability to conceive, design, and supervise construction of units of progress is hereby attested.

The "treasury of professional conquest" is not primarily pecuniary, although stipend and fees are essential factors in the equation of success. The indeterminants of beauty, service, self-esteem, satisfaction of a tough job well done and heritage to posterity are positive terms of the equation, and are fruits of perseverance.

Psychology, GREATEST NEED OF THE ENGINEER

By E. J. DAVIS, Member A.A.E.

This is the THIRD of a series of articles whose purpose is to help the engineer, in a fruitful manner, to acquire a salary commensurate with his education and intelligence.

TALKING about what should be done, or demanding that some corrective action be taken, is in no way connected with the "doing" of the necessary action. This series of articles will be a waste of your time unless you take action as a result of reading them. There is at present no short cut to the acquisition of a million dollars by one engineer. There is, however, a method by which one million engineers can each get one dollar extra, each week, and this adds up to $52,000,000.00 per year. It is believed that it is a greater achievement for a million engineers to enjoy an increase of one dollar each week than it is for one engineer to acquire one million dollars in one year. This method of increasing income of all engineers is known as the "minute detail" method, in which many minute details are used to make a forward step in salary. In the study of the working of the normal mind (psychology) it has been found that the mind loves to offer a substitution for the process of thinking. For example, we have allowed our minds to *assume,* rather than think! Take the case of 100 engineers listening to a lecture. Each engineer heard the same words of the lecturer. Yet, out of that group of 100 engineers there will be at *least* fifty different interpretations of what the lecturer said. There will be at least 75 different assumptions that the lecturer made statements which the lecturer really did not make at all!! This sort of thing always can be explained as "the human thing to do", but for the engineer it is the costly thing to do, for it is the formation and practice of inaccurate thinking, and this inaccuracy will reflect itself in the work of the engineer, and BINGO!! There is another stumbling block in the path leading to higher pay. What a pity! The engineer knows, to be so, very many things which are *NOT* so! Look at the word "Glamour". Today five million American men will tell five million American girls that those girls are glamour girls, and those five million girls will love it!! To tell someone she is glamorous is an insult, but who knows it?? To be glamorous is to be made up to look like something which you really are NOT!! The engineer goes through life, using words right and left, and he hasn't the slightest idea of what those words really mean to other people. He knows what the words mean to him, and he lets the matter drop at that point. Minute details, yes, but so very important in acquiring a better job and better pay. Hitler said, "If you will say a thing often enough, the stupid, lazy mind of the average human being will embrace your words as facts." This happened in Hollywood:— Shortly after the release of the moving picture, "Algiers", starring Hedy LaMarr and Charles Boyer, a radio comedian imitated the French accent of Charles Boyer and said, "Come wizzz me to ze Casbahhhhhh". From that time forward, and to this day, whenever the name of Charles Boyer is mentioned, someone turns on a French accent and says, "Come wizzz me to ze Casbahhhhhh". That statement swept the nation like Harry Truman. When Charles Boyer heard it coming out of his loudspeaker, night and day, and day and night, he was sure that he had never made that statement while making the picture "Algiers", but, as days went by, and more and more people began to imitate Charles Boyer, and to invite other people to come to the Casbah, Charles Boyer began to doubt his memory. Did he really say that line? When did he say it? Was it in the script? Did he "ad lib" the statement? So, Charles Boyer went to his neighborhood theater to see the picture, "Algiers", and sure enough, such a statement was NOT in the picture.

Accuracy is a great asset, and only a few possess it.

Therefore, if the engineer's great asset is accuracy, how can the engineer expect to make even a small financial gain when he squanders his asset?? The cross-section of an engineer's statement is indeed the cross-section of the engineer's ability!! Another word which is horribly misunderstood, and misused, by the engineer is the word "Personality". Engineers have been accused of possessing gloomy and somber personalities. How can this be?? The word "personality" means the ability to be different from other people. Perhaps some engineers are somber and gloomy. It is their constitutional right to be that way if they so desire. But, engineers do have personalities, and they do have different types of "differentness", one from the other. The engineer feels that there is no chance for him to acquire the so-called large salaries of the salesman. The engineer feels this way because the engineer does not possess the sparkling, impressive, continuous, and forced smile of the salesman. This is such a ridiculous way for the engineer to look at his Fate! The engineer is a thinker, and his face reflects the effort of his thinking. Suppose engineers went through life concentrating, as salesmen do, on the formation of a perpetual smile. The concentration on the forced smile would detract from the vital concentration on engineering problems; perhaps a steel girder would be figured too low in stress, and London Bridge falls down again! The salesman gains his enviable salary not from his smile and facial expression, but from his mastery of words. The engineer can master words, and the real meaning of words. The engineer has the intelligence, the mental retentivity. There is nothing to stop him from acquiring a better salary if he will at all times ask himself this question: "Does my boss understand my words exactly as I understand them?" Then find out if your boss does understand them exactly as you do. Your boss has ears, and a brain. Ask him little questions, now and then, for the purpose of finding out your boss's interpretation of your own words. That is the accurate way to make minute details pay off in favor of a better salary for you.

Missouri School of Mines Meets the Emergency

Under guidance of its distinguished dean, Dr. Curtis L. Wilson, Missouri School of Mines has expanded its facilities to meet the needs of a vastly increased engineering enrollment.

In November, 1948, Professor Joe B. Butler of the Missouri School of Mines at Rolla, Mo., and member of the Engineers' Club of St. Louis and of the St. Louis Section of A.S.C.E., prepared for St. Louis engineers a very interesting summary of the tremendous increase in engineering enrollment at Missouri School of Mines since 1942. Because the problems posed by increased enrollments in engineering schools are national, and because Missouri School of Mines has met those problems with outstanding success, we reproduce a section of Mr. Butler's report. Mr. Butler asserts that the school's dean, Dr. Curtis L. Wilson, deserves a lion's share of credit for the school's capable handling of its vastly increased student body. We quote Mr. Butler:

From data secured from C. N. Roberts' 1946 History of the Missouri School of Mines I have arbitrarily subdivided M.S.M.'s History into 4 parts.

Part I—covers the first 28 years from 1871 to 1899, during which time the annual enrollment varied from 28 to 125 students with an average of 81. During this time there were 95 graduates or less than 4 per year.

Part II—covers the next 20 years from 1899 to 1919 during which time the enrollment varied from 168 to 288 with an average of 220. There were 487 graduates for a yearly average of 24.

Part III—runs for 27 years from 1919 to 1946 with high and low enrollments of 958 and 308 occurring during World War II and with a 27-year average enrollment of 567. There were 2,476 graduates or an average of over 91 per year.

Part IV—started September, 1946, with our 1946-1947 enrollment of 2,651. Then came our 1947-1948 enrollment of 2,908. It is likely that our enrollment for this school year will reach 3,000. For the two calendar years of 1947 and 1948 we have had 205 and 371 first degree graduates.

My personal prediction is that we will grant 500 first (or B.S.) degrees in 1949 and 700 such degrees in 1950. From then on for a few years the anticipated recession in the number of college students over the U.S.A. due to the graduation of most of our G.I. students should give some relief in our enrollment until the currently large number of post-war children begin to crowd college facilities beginning before 1960. Some conservative predictors in M.S.M. are naming 3,500 as our enrollment at about 1960.

We have been told by a goodly number of our successful graduates that we are doing a very good job of giving an engineering education to our students and I am convinced that our work is fully up to par with the job that is being done in our engineering colleges over the U.S.A. We have so increased and organized our classroom and laboratory facilities and our teaching staff that I feel we are now less crowded and loaded down than we were in our facilities and staff when we had our wartime previous record enrollment of 958 students during 1942-1943.

Scientists finally reach agreement with Shell Development Company

From a press release issued by the Association of Industrial Scientists we learn that twenty months after the group was certified as bargaining agent for the professional scientists at Shell Development Company Laboratories, Emeryville, California, the Association reached an agreement on a contract with the Shell management. "The contract was approved by the Association membership," says the release, "in November along with an acceptance of a 7½ percent salary increase, retroactive to July 1.

"The Association had asked for a 12% increase retroactive to January 1. The delay in reaching agreement with the Company was due largely to the Company's insistance that the Association should not bargain on salary matters and the Association's desire to improve vacation benefits for its members. On the first item a compromise was reached in which the Company agreed to bargain with the Association on general salary increases and the Association agreed to allow the Company to grant 'merit' increases without bargaining. On the vacation issue the Company granted slight improvements.

"The contract contains the unique provision that the matter of salary increases may be discussed at 'reasonable" times by either party and also that the Company will endeavor to send more of its professional scientists to scientific meetings and will encourage the publication of scientific papers. The agreement was reached through the good offices of Commissioner Kenaston of the Federal Conciliation and Mediation Service and will run for one year.

"The Association, which is an independent organization, was formed early in 1943 for the dual purposes of providing a means for the 330 chemists, physicists and engineers in the unit to express their needs to management and to prevent representation being secured by the left-wing Federation of Architects, Engineers, Chemists and Technicians, CIO (later fused with the UOPWA). The A.I.S. successfully prevented the FAECT from obtaining representation in an NLRB election and went on to win its own election in February, 1947, after winning a two-year-long fight against a company-domination charge brought by the FAECT.

"The Association is actively working with similar organizations at Standard Oil Company of Indiana and the Humble Oil Company, Baytown, Texas, and is cooperating fully with the National Professional Association of Engineers, Architects and Scientists, a west coast group composed largely of professional engineers, many of whom are employed by aircraft and power companies."

SACKCLOTH AND ASHES

And on us it doesn't "look good" . . .

This is a correction, an explanation and an apology—in other words, editorial sackcloth and ashes. Only another editor will be able to understand fully the explanation or know how abashed we are in sackcloth and ashes.

In the September issue of PROFESSIONAL ENGINEER we expressed great enthusiasm for a plan worked out by Professor Jelinek of Missouri School of Mines, which enables him to combine the teaching of English with instruction in engineering's professional and economic problems. It was a good one-page story, almost an exact fit. The editor, putting in the last strokes on the dummy noticed that there was a two-line space at the bottom of the page, which called only for a couple of hieroglyphics that would tell the printer "space out—2 lines." With pencil poised the editor halted, struck by a pleasant notion. The editor, you see has always greatly admired Joe Butler of the Missouri School of Mines, so the editor, thinking more of picas and the justifiability of attaching a not quite relevant rider to the Jelinek article, wrote: "Joe Butler is Dean of Engineering at Rolla School of Mines and an active member of A.A.E." This was in error because Dr. Curtis L. Wilson has been Dean of the Missouri School of Mines since 1941, serving the school most actively and effectively.

Now the facts in this case are these: Joe Butler is, and since 1931 has been Professor of Civil Engineering at Missouri School of Mines at Rolla, Missouri. He has been each year since 1931 elected Chairman of the Department also. But he is not and never has been Dean. He is one of those ruggedly honest souls who doesn't like to be "upgraded." All these facts were perfectly well known to the editor of PROFESSIONAL ENGINEER. We extend our apologies to Professor Butler and to Dr. Wilson.

Southern Bell Engineers win

By an unanimous decision of a three-man panel of the NLRB engineer-employees of the Southern Bell Telephone and Telegraph Company have won their legal battle to obtain removal from a non-professional labor union. They may express their desires through a decertification election, as authorized in the Taft-Hartley Act.

The following observations, made by the Board are interesting to engineers:

"The four categories requested by the Petitioners are employed in the three departments mentioned, namely general engineering, traffic engineering and plant engineering. There are no sharp lines of distinction between the positions of the four categories of engineers as to responsibilities or pay. In general the most difficult work is done by the engineers and the least difficult by the engineering fieldmen. In the group of engineers, junior engineers, and fieldmen, approximately sixty-nine per cent are either college graduates or have some college education. All the student engineers are college graduates and hold engineering degrees. Some of the engineers belong to professional engineering societies and a few are licensed by the various states in which the employer operates. Such licenses are not required by the employer. Because communication engineering as such is taught in very few colleges, the employer expects to, and does, provide intensive classroom and on-the-job training for its engineering employees.

"The record establishes that the work of the engineers, junior engineers, and student engineers is predominately intellectual and varied and that their output cannot be standardized in relation to a given period of time. The projects on which they are engaged require substantial portions of the type of knowledge usually acquired in scientific courses in institutions of higher education, principally in the field of electrical engineering.

To a lesser extent, the work requires some knowledge of civil and mechanical engineering, higher mathematics, and economics. Because of the magnitude of the employer's operations, the engineering work has been organized on an assembly-line basis by departments and smaller groups within departments, each group performing a specific task on each engineering plan. Student engineers and newly-hired junior engineers are assigned to an experienced engineer until they are sufficiently trained by class-room study and experience to work more independently. Based on research, information supplied from other sources, and personal investigation of conditions at the site of the project, the engineers must exercise independent judgment and discretion in working out their part of a project. Their decisions are necessarily limited to the extent that they must conform wherever possible to tested and proved requirements as set forth in the extensive Bell System Practices. Any substantial variation or innovation must be approved by the engineer's supervisor. The Bell System Practices, consisting of many volumes, represent a codification of years of experience, experimentation, and research on the part of telephone engineers. They are as indispensable to the employer's telephone engineers as are the standard textbooks and manuals to the civil or mechanical engineer. Only engineers having a thorough knowledge of the employer's equipment, its capabilities and limitations, and an understanding of the over-all engineering problem in the communications industry, could make intelligent use of these practices."

Illinois Engineering Council Elects Officers

At a meeting of the Directors of the Illinois Engineering Council held on December 11, 1948, in Springfield, Illinois, the following officers were elected: For President, W. Wayne Wallace; 1st Vice President, K. V. Glentzer; 2nd Vice President, Alois W. Graf; Secretary-Treasurer, George C. Laughlin; the Executive Committee, Professor Harold E. Babbitt, Donald N. Becker, and W. W. Wishard.

At the same meeting it was proposed to amend the By-Laws of the Council with reference to the term of office of Directors in order to simplify the appointments.

Oregon Engineers Organize

For the purpose of seeking better working conditions and improved salaries, 140 employees of the Oregon State Highway Department have organized. The name of their group will be the Association of Engineering Employees of Oregon. While the group now enrolls only public employees working under the States Civil Service Act, it is expected that the organization will later take into membership engineering employees from the various fields.

E. G. Rickets is President; Forrest Cooper, First Vice President; Joe Skelton, Second Vice President, and Claude Pfifer, Secretary

News About Chapters

San Bernardino Valley College Students Reorganized

We are happy to receive word from Daniel Wong, Secretary-Treasurer of the A.A.E. Student Chapter at San Bernardino Valley College, stating that the group had been reorganized by their Advisor, Mr. Heath.

The Chapter was a live wire group prior to the war. It is sponsored by the San Bernardino Chapter of the American Association of Engineers. The Chapter is interested in several other engineering student groups in their vicinity.

We wish the boys the best of luck in 1949, and thank San Bernardino Chapter for their interest in these Young Engineers.

Long Beach Student Chapter

Chapter officers for Long Beach Student Chapter A.A.E. for 1949 are: President, Bob Kilpatrick; vice president, Dave Lyons, treasurer, Jim Moor; recording secretary, John Bennett, and corresponding secretary, Norman Johnson.

Long Beach

Long Beach Chapter has elected officers for 1949 as follows: President, Charles P. Morgan; vice president, Meredith Chatten; secretary, Paul J. Prout, and Russell Palmer is the treasurer.

The December 16th meeting was held at Vernon's Men's Grill, with John Marriner in charge of the program. Color films were shown.

North Idaho Junior College

One of the purposes of establishing student chapters of A.A.E. in colleges is to acquaint the students with Society duties, and we are therefore always pleased when we receive a well prepared account of student activities. Robert W. Steiner, Secretary of the Student Group at North Idaho, has done a good job of reporting. Note the following: "The second dinner meeting of the Student Chapter of the A.A.E. North Idaho Junior College was held on the evening of December 8, 1948, at Fowlers Cafe, Coeur d'Alene, Idaho. The program consisted of a motion picture projection on Diesel engines. The film was a General Electric production on their Diesel electric units. This was followed by a talk on automatic telephone exchanges by Roy Worley, a Bell Company Engineer, who brought with him several devices used in the system, explaining them as he talked.

Due to the length of the program, motion was made and passed postponing the business meeting until the following afternoon.

We were pleased to have as our guests the following engineers: William Ashley, Kootenai County Surveyor, F. O. Miller, Highway Engineer, William Meyers, Assistant City Engineer, and Roy Worley, Telephone Engineer.

Our business meeting was held in the drawing room on the afternoon of December 9, 1948. The college is going to entertain the upper one-half of the senior classes of the Kootenai County high schools on April 1, 1949, and it was decided that the club would put on a skit to demonstrate how we function. A committee was appointed with Ralph Dowers as chairman. Don Jensen and Ellsworth Raymond will assist him in arranging the skit.

Don Jensen was also appointed Chairman for the formal dance which we will hold in the spring. The meeting closed with a reminder that the club will take a field trip to the automatic telephone exchange in Spokane, Washington, shortly after the holidays. Mr. Worley's talk came at the right time to help us understand the operation of the exchange more easily when we got to see it.

Thanks, Mr. Steiner; keep up the good work.

Engineers' Club at Riverside

One of A.A.E.'s cherished student chapters is located at Riverside College, California. The club is sponsored by A. J. Twogood and Howard H. Bliss, Joel Strandberg, and Wayne W. Shepard assisting.

The boys are planning several interesting field trips including a two to three day trip to Hoover Dam.

Officers for the year are: President, Jack R. Hoskinson; vice president, Robert Buchanan Edmondson; secretary, Paul Leonard Forester; treasurer, David Stepanek; sergeant-at-arms, Wiley Venton Carter, Jr.

The San Bernardino A.A.E. chapter takes a special interest in the young engineers, lending such assistance as it can throughout the school year. Good work, San Bernardino.

Bakersfield Student Group

Officers of the Bakersfield College Student Chapter, A.A.E., for 1948-1949 are: President, Jack Hiemforth; vice-president, Richard Chappelle; secretary, Byron Wiegand; treasurer, Jerry Wetterholm; sergeant-at-arms, Howard Miller.

The group numbers about twenty students, all interested in the aims and objectives of the Association, and striving to be "top-notch" engineers one of these days. Lots of good luck, fellows!

Taft Junior

Taft Junior College Chapter A.A.E. has been fortunate throughout the years in having as its sponsor, Frank W. Rose, who has steadfastly supported the aims and objectives of A.A.E. He has never failed to keep Headquarters informed of the activities of the group and his letters have always been an inspiration to us.

He reports that the group is going along in good fashion and hopes one of these days to have a get-together meeting with the A.A.E. group at Bakersfield. His chapter is planning a trip to San Francisco or Los Angeles in the spring.

R. James Magee is the chapter president; Dean Davidson, vice president, and John K. Thompson, secretary and treasurer.

Late in November a Dinner Meeting of the Taft Junior College A.A.E. was held at one of the local cafes. It was well attended by the students, and Ken Shaffer, District Superintendent of Standard Oil Company of California, was the principal speaker.

Book Reviews

Education for Professional Responsibility. A report of the Proceedings of the Inter-Professions Conference on Education for Professional Responsibility held at Buck Hill Falls, Pennsylvania, April 12-14, 1948. Carnegie Press, Carnegie Institute of Technology, Pittsburgh, Pa.

This report should prove of great value not only to educators but also to professional men. The conference should prove a milestone in education and the book makes stimulating reading.

Cybernetics or Control and Communicacation in the Animal and The Machine. By Norbert Wiener, Professor of Mathematics, The Massachusetts Institute of Technology. John Wiley & Sons. $3.00.

The book describes a new science, it is a study of human control functions and the mechanico-electrical systems designed to replace them. The introduction of thirty-two pages is perhaps the most easily understandable part of the book in that it tells how this book came into being, it is an inspiring story. The book deals with computing machines which are electronically controlled, new ideas are pioneered and several important fields are opened. The book is somewhat heavy reading, but at the same time most inspiring.

Managerial Control of Business. John Wiley & Sons Inc. $5.00.

This extremely important book is the work of a number of Editor-Experts under the guidance of George T. Trundle Jr., Editor-In-Chief.

The book covers every phase of business management and stresses and describes principles and methods in use today. Sections four and five are of exceptional interest to engineers since they cover the fields of manufacturing and industrial relations. This is perhaps the first book on the subject in any language and the editors are to be commended for making the material and their knowledge available. An outstanding book.

Proceedings of The Society for Experimental Stress Analysis. Volume VI, Number 1. Addison-Wesley Press Inc. $6.00.

This new volume contains a list of members and papers by fifteen or more experts in the field of stress analysis and allied subjects. The paper by M. M. Leven of Westinghouse Research Laboratories describing a new material for three-dimensional photoelasticity is noteworthy. Photoelasticity is treated in several other papers. An excellent book for engineers and especially structural engineers.

Fluid Flow in Pipes, its Mechanics and Dimensions. By Clifford H. McClain. $5.00. Clifford H. McClain, Havertown, Pa.

A carefully written treatise covering fluid flow in pipes and which should prove very helpful to engineers engaged in piping layouts, design, etc. The book is printed in clear and easily readable type and well illustrated. A good companion volume to Crocker's Piping Handbook.

Introduction to Gas-Turbine and Jet-Propulsion Design, by C. A. Norman, Professor of Machine Design, The Ohio State University, and R. H. Zimmerman, Assistant Professor of Mechanical Engineering, The Ohio State University. Harper & Brothers, New York. Price $5.00.

A well illustrated book on a timely subject which should prove of universal interest to all engineers in the field of internal combustion engines. This is the first elementary and practical book on the subject written by competent engineers of long experience in this field. Part III deals with Aircraft Power Plants, Stationary, Marine and Locomotive Plants and what is important: Rockets. The Appendix treats the Derivation of Disk Formulas. An important book.

Principles of Electric and Magnetic Fields, by Warren B. Boast, Ph.D., Professor of Electrical Engineering, Iowa State College. Harper & Brothers, New York. $4.75.

The book is divided into three parts. Parts I and II cover Basic Electric Fields and Basic Magnetic Fields respectively. Chapter III contains a wealth of well organized information on Supplementary Aspects of Electric and Magnetic Fields. An Appendix is made up of the more important tables needed for better understanding and the working out of the problems, the latter being found at the end of each chapter.

A Concise History of Mathematics, by Dirk J. Struik, Professor of Mathematics at The Massachusetts Institute of Technology. 2 Volumes. Dover Publications Inc. $1.50 per Volume.

The author has managed to compress into two small volumes the history of Mathematics. Volume I covers the history from the Beginnings to the Beginnings of Western Europe. Vol. II from the Seventeenth Century to The Nineteenth Century. In Vol. I can be found a list of books to be consulted both in English and foreign literature. The two little books should be a must for anyone interested in mathematics either in a professional or student capacity. No professional or home library should be without these two books. Highly recommended.

Machine Design Drawing Room Problems, by C. D. Albert, M. E. Professor of Machine Design, emeritus, Cornell University, Member A.S.M.E., and Academic Member of the American Gear Manufacturers Association. Fourth Edition. John Wiley & Sons, Inc. $5.00.

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Introduction to Engineering Problems, by Robert Q. Brown, Professor of General Engineering, University of Washington. Prentice-Hall, Inc. $3.95.

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Michigan and the Cleveland Era. Edited by Earl D. Babst and Lewis G. Vander Velde. The University of Michigan Press. $2.50.

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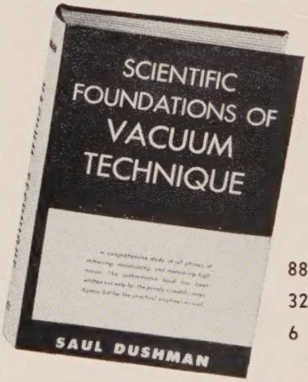

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A carefully prepared and documented report on light weight aggregates which should prove a great value to the building and allied industries. Countless number of tests were made and the results recorded. Different materials both organic and inorganic were tested, incidentally Perlite is not mentioned which is to be regretted since this material is about to come into its own. This very comprehensive report should be in all engineering libraries for it is a masterpiece.

The Specifications and Law on Engineering Works, by Walter C. Sadler, Member Am. Soc. of Civil Engineers; Am. Bar Association; Am. Railway Engineering Assoc. John Wiley & Sons, Inc. $5.00.

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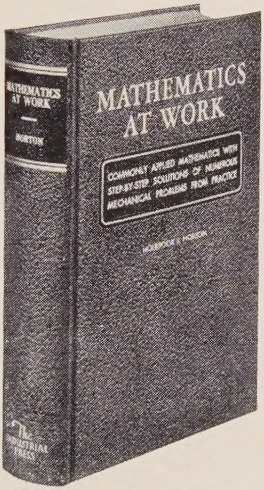
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Originally designed for use by maintenance engineers at B.B.C. broadcasting stations the text has now been enlarged so that it also is a valuable reference work. The scope of the treatment and the method of presentation are specifically related to actual practice. The book is considerably in advance of existing literature and fills a real need. The book is not too technical but the reader should have a working knowledge of elementary mathematics. A very useful book.

Cement and Concrete Reference Book. 1948. Published by Portland Cement Association, 33 West Grand Ave., Chicago 10, Illinois.

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